

REMARKS

Applicants filed an Amendment on May 19, 2004 (the "May 19, 2004 Amendment") in response to the Office Action mailed November 19, 2003. In the Advisory Action mailed June 15, 2004, the Examiner indicated that the May 19, 2004 Amendment was not entered. Applicants filed a Request for Continued Examination on July 13, 2004 requesting entry of the May 19, 2004 Amendment. Claims 58-64 and 70-76 were pending in the application after the entry of the May 19, 2004 Amendment. In the instant Amendment, claim 62 has been canceled without prejudice, and claims 58, 59, 63, and 71-72 have been amended to clarify the invention. Upon entry of the above-made amendments, claims 58-61, 63-64 and 70-76 will be pending in the application.

Claim 58 has been amended to clarify the presently claimed invention. In particular, claim 58 has been amended by replacing the phrase "each of said one or more artifacts comprising an artifact pattern comprising measurements of changes in said cellular constituents resulting from deviation of one or more experimental variables from conditions under which it is desired to make said measurements" with the phrase "each said artifact pattern comprises measurements of said cellular constituents and represents contribution of one of said one or more artifacts in said measured biological response profile, wherein each of said one or more artifacts results from deviation of one or more experimental variables from conditions for measuring said measured biological response profile free of said artifact." Support for the amendment is found in the specification at page 34, lines 25-29; page 35, lines 4-6, and lines 10-12. Claims 71 and 72 have been amended similarly. Claim 58 has also been amended to incorporate the limitation of claim 62.

Claim 59 has been amended to delete the phrase "said changes in" so that there is appropriate antecedent basis.

Claim 63 has been amended to depend on claim 58.

No new matter has been added by these amendments. Entry of the foregoing amendments and consideration of the following remarks are respectfully requested.

APPLICANTS' INTERVIEW SUMMARIES

Applicants thank Examiner Ardin Marschel for the courtesies extended during the telephone interviews on August 3, 2004, September 14, 2004, and October 7, 2004, respectively (hereinafter "the Interviews") with Applicants' and Assignee's representatives Adriane M. Antler, R. Douglas Bradley, and Weining Wang¹. During the Interviews, potential claim amendments were discussed.

In the interview of October 7, 2004, Dr. Antler proposed to amend claim 58 by replacing the phrase "each of said one or more artifacts comprising an artifact pattern comprising measurements of changes in said cellular constituents resulting from deviation of one or more experimental variables from conditions under which it is desired to make said measurements" with the phrase "each said artifact pattern comprises measurements of said cellular constituents and represents contribution of one of said one or more artifacts in said measured biological response profile, wherein each of said one or more artifacts results from deviation of one or more experimental variables from conditions for measuring said measured biological response profile free of said artifact." Dr. Antler also proposed to amend claims 71-72 similarly. The Examiner indicated that such amendments would overcome the rejection under 35 U.S.C. § 112, second paragraph, for indefiniteness.

Also in the interview of October 7, 2004, with respect to the rejection under 35 U.S.C. § 103(a) based on Felder, or, alternatively, based on Felder in view of Singer, Dr. Antler proposed to amend claim 58 by incorporating the limitation of claim 62. The Examiner indicated that the amendment would overcome the rejection of claim 58 under 35 U.S.C. § 103(a). Dr. Antler also pointed out that claims 71 and 72 were not obvious over Felder or Felder in view of Singer because the claimed methods refer to a library of artifact signatures. The Examiner agreed that claims 71 and 72 were not obvious over the cited prior art.

THE REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH, SHOULD BE WITHDRAWN

In the Office Action mailed November 19, 2003, claims 58-64 and 70-76 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point

¹ Dr. Bradley participated only in the interviews conducted on September 14, 2004 and October 7, 2004.

out and distinctly claim the subject matter which Applicant regards as the invention. In the Advisory Action of June 15, 2004, the Examiner contends that even if the May 19 Amendment were entered, the metes and bounds of the word "conditions" and "desired" remain unclear. Claim 62 has been canceled, thereby obviating the rejection of this claim. Claim 58 has been amended by replacing the phrase "each of said one or more artifacts comprising an artifact pattern comprising measurements of changes in said cellular constituents resulting from deviation of one or more experimental variables from conditions under which it is desired to make said measurements" with the phrase "each said artifact pattern comprises measurements of said cellular constituents and represents contribution of one of said one or more artifacts in said measured biological response profile, wherein each of said one or more artifacts results from deviation of one or more experimental variables from conditions for measuring said measured biological response profile free of said artifact." Claims 71-72 have been amended similarly. The rejection of claims 58-61, 63-64 and 70-76 under 35 U.S.C. § 112, second paragraph, is therefore obviated and should be withdrawn.

THE REJECTIONS UNDER 35 U.S.C. § 103(a)
SHOULD BE WITHDRAWN

In the Office Action mailed November 19, 2003, claims 58-61 and 71-73 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,232,066 ("Felder") alone, or, alternatively, over Felder in view of U.S. Patent No. 5,866,331 ("Singer"). The rejection is reiterated in the Advisory Action due to non-entry of the May 19 Amendment.

A finding of obviousness under 35 U.S.C. § 103(a) requires a determination that the differences between the claimed subject matter and the prior art are such that the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made. *Graham v. Deere*, 383, U.S. 1 (1956). The relevant inquiry is whether the prior art suggests the invention and whether the prior art provides one of ordinary skill in the art with a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be found in the prior art. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

Felder teaches compositions, apparatus and methods for concurrently performing multiple biological or chemical assays. In Felder, positive control probes are used as internal standards for normalization purposes. Examples of such positive control probes include

probes specific to house-keeping genes which are not expected to be modulated by, e.g., the agents being tested. Felder also teaches the use of negative control probes which are known not to interact with the target. Felder also teaches the use of probes specific to genes that are known to be induced as part of certain biological process, e.g., apoptosis, for determination of side effects of an agent. In Felder, background subtraction is also used. Felder's background levels are measurements of fluorescence image of the plate (see Felder, col. 33, lines 25-28). Singer teaches a method for determining the total fluorescence intensity of a single fluorochrome. In Singer, background subtraction and dark current subtraction are used.

Applicants have canceled claim 62, thereby obviating the rejection of this claim. Applicants have amended claim 58 to recite that *each said artifact pattern is scaled by an independent scaling coefficient*, thereby incorporating the limitation of claim 62. Applicants respectfully submit that neither Felder nor Singer teaches or suggests scaling each artifact pattern with an independent scaling coefficient, much less a method for removing one or more artifacts by subtracting the one or more artifacts each scaled by an independent scaling coefficient. Therefore, Felder alone or in combination with Singer does not suggest the presently claimed methods to a person of ordinary skill in the art. The rejection of claims 58-61 under 35 U.S.C. § 103(a) based on Felder or Felder in view of Singer is therefore obviated and should be withdrawn.

With respect to claims 71-73, Applicants respectfully submit that neither Felder nor Singer teaches or suggests artifact removal by subtracting an artifact template comprising an artifact signature obtained by comparing the biological response profile to a library of artifact signatures. Therefore, Felder or Felder in view of Singer does not render claims 71 and 72 obvious. The rejection of claims 71-73 under 35 U.S.C. § 103(a) based on Felder or Felder in view of Singer should be withdrawn.


CONCLUSION

Applicants respectfully request entry of the foregoing amendments and remarks into the file of the above-identified application. Applicants believe that all the pending claims are

in condition for allowance. Withdrawal of the Examiner's rejections and allowance of the application are respectfully requested.

Respectfully submitted,

Date: October 11, 2004

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